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THE HAVEN OF HEALTH

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THOMAS COGAN, physician and schoolmaster of Manchester, in 1584 published a book to which he gave the modest title "The Haven of Health." At the time of the publication Queen Elizabeth had been on the throne twenty-six years. Four years later the Spanish Armada was to be ingloriously swept from the seas by a combination of British valor and unfriendly winds. Three years were still to pass before William Shakespeare would move to London. The jubilee of learning was soon to be at its full height.

Galen was still the god of biological science, whom to question was blasphemy. At this time, as for the previous fourteen centuries, his writings were considered the last word in all discussions physiological or anatomical. None might question his authority without encountering the opposition of all God-fearing folk. There had come from the pen of Vesalius some forty years previous to the writing of the "Haven" a work of anatomy, the "*Fabrica Humani Corporis*," which was a worthy harbinger of the new learning. Vesalius had arrived at the peculiar conclusion, probably not without many misgivings, that more might be learned by direct observation than by poring over the works of the philosophers of Greece and Rome. But even so strong-minded and purposeful man as Vesalius found it sometimes expedient to tread with meticulous discretion so that his differences with Galen should be passed over lightly, as, for example, when he was content to wonder at the power of Almighty God who was able to cause the forcing of the blood from the right to the left ventricle through the invisible pores in the thick wall separating these two cavities. But the two-score years must still pass before Harvey, in 1628, should bring out his book demonstrating the proofs of the circulation of the blood. Harvey followed in the footsteps of Vesalius in that his knowledge was gained by direct observation rather than by minute and painstaking perusal of the authorities.

The "Haven of Health" was first published in 1584 or 1586. There was a second edition, "corrected and augmented," in

1589, followed by others in 1596, 1605 and 1636. The last edition was merely a reprint of the first. The copy of Cogan's book to which the present writer has access was "Imprinted at London by Richard Field for Bonham Norton, 1596." The dedication to the "Right Honorable and my verie good Lord, Sir Edward Seymour Knight, Baron Beauchamp, and Earle of Hertford" bears the date 1588.

Cogan tended to break away from precedent by writing in English. As early as 1534 to be sure, Sir Thomas Elyot had brought out a semi-scientific book, "The Castell of Helth," in the vernacular. But so much feeling was aroused in medical circles by Elyot's presumption that it was found necessary in the preface of the later editions to set forth a defence of the innovation:

Now when I first wrote this boke I was not all ignorant in physicke. And although I have never been at Mountpelier, Padua, nor Salern, yet have I found some thyng in physicke whereby I have taken no little profit concerning myne owne helth. . . . But if physicions be angry that I have written in englishe, let them remember that the grekes wrote in greke, the Romans in latin. . . .

Pure scientific literature continued to be written almost exclusively in Latin. Vesalius had written his book in Latin, and Harvey was to write his in the same language. Nevertheless, the "Haven of Health" exemplifies the spirit of the times. A positive statement is seldom made without marginal reference to the authority for such statement. It is a rare page that has not at least one marginal note, while many have three and sometimes four such references, so that they resemble the pages of a cross-reference Bible. Aristotle, Hippocrates and Galen are frequently referred to. For the author makes no claim for originality:

And if they [the readers] find whole sentences taken out of Master Eliot his Castle of Health,¹ Scho. Sal.² or any other author whatsoever, that they will not condemne me of vaine glorie . . . for I confess that I have taken Verbatim out of others where it served for my purpose, and especially out of Scho. Salerni; but I have so interlaced it with mine owne, that (as I think) it may be better perceived. And therefore seeing all my travail tendeth to common commoditie, I trust everie man will interpret all to the best.

¹ Sir Thomas Elyot, "The Castell of Helth," London, 1534.

² "Regimen Sanitatis or Schola Salerni," a work on health in Latin hexameters composed by Robert, Duke of Normandy and son of William the Conqueror. The annotations to this work by various subsequent writers were of more value than the original composition. It is said to have gone through no less than 160 editions.

It is of course necessary for Cogan to explain in these prefatory remarks the form or order which he observes in assembling his material:

Such as have written of the preservation of health before me, for the most part have followed the division of Galen into things not natural, which be fixed in number, Ayre, Meate and Drinke, Sleepe and watch, Labour and rest, emptiness and repletion, and Affections of the mind. However, Hippocrates in the sixth book of Epidemies, set down Labour, meate, Drinke, Sleepe, Venus, all in a measure, as a short summe or forme of a man's whole life touching diet.

In the disagreement of such high authorities, our author is able to exercise some choice in the "order" of his book. Such manipulations of authority are not infrequent. For instance, the "Haven of Health" is written primarily as a guide for students. This circumstance provides the author a means of brushing off some of the dusty accumulations of the ages, because Aristotle, Hippocrates, Galen and the rest did not limit their field in this way. Those things which are good for laborers may not be good for students, for we are constantly reminded that "Great labour overcometh all things," especially in the way of dietary indiscretion. Thus, "In some shires in England they use in Lent to eate raw Leekes and hony, with Beanes or Pease sodden, but what Rustickes do or may do without hinderance of their health, it is nothing to students: for Gross meate is meete for grosse men." And, furthermore, "pease potage" can not be recommended for students, but "I leave it to Rustickes who have stomachs like Ostridges, that can digest hard iron. And for the student I allow no bread but that which is made of wheat."

Although Cogan does not always hold to current views and sometimes goes out of his way to disprove them, this is never done by ready recourse to his two good eyes, but, consonant with the spirit of the times, by quotations from authority. Thus in order to prove that rabbits are not hemaphroditic he does not recommend examination of the animals themselves, but says: "The opinion which some holde, that everie hare should be of both kindes, that is male and female, is disproved by Matthiolus . . . as untrue."

The book proper opens with a discussion of the geography and physiography of the British Isles, especially as they are in contrast to the Roman world. This is evidently a bit of hocus pocus so that when our author disagrees with the older philosophers he may be able to show that the differences are more

apparent than real and are bound up in differences in climate, topography, or what not. Thus, although the Salernian school discountenances the use of beef, and Galen too, disapproves its use, saying "It maketh grosse blood and engendereth melancholie," Cogan is able to approve its use as follows: "All these authors (in mine opinion) have erred in that, they make the Biefe of all countries alike, For had they eaten of the Biefe of England, or if they had dwelt in this our climate, which through coldness doth fortifie digestion, and therefore requireth stronger nourishment."³

After this safety valve introduction we are justified in going on with the subject in accordance with the aforesaid schedule. First,

When you are arisen from sleepe, to walk a little up and downe, that so the superfluity of the stomacke, guttes and liver, may the more easily descend, and the more easily be expelled. . . . Moreover to extend and stretch out your handes, and feete and other limmes that the vitall spirites may come to the utter partes of the body. Also to combe your head that the pores may be opened to avoide such vapours as yet by sleepe are not consumed. Then, to rub and cleanse the teeth. For the filthiness of the teeth is noysome to the braine, to the breath, and to the stomacke.

When the "vitale Spirites" have wandered to their proper stations, and the vapours have arisen from the head, exercise is in order, provided the oracle is favorable. The oracle consulted in this case is the color of the urine which should be neither too pale nor too red. As an example of the benefits to be procured by exercise, the case of Milo Crotoniates is brought forth. Milo was a gentleman of no mean ingenuity and initiative. For he it was, who, in the lack of Whitney exercisers, made use of available material, and by carrying a "calfe every day certain furlongs was able to cary the same being a Bull." Perhaps all the young married men of the neighborhood engaged in the pastime. Perhaps classes were formed. Perhaps in those days astute men of affairs neglected their business to carry appealing young calves, or the same being bulls, along the country lanes just as in 1919 otherwise sane men are known to spend hours at a time whacking little white balls across green fields. Who shall say that the golf widow of 1919 is not the lineal descendant of the "calfe widow" of 1594?

Further exercise suitable for the development of the various parts of the body are set forth. Tennis is stated to have been

³I have omitted no part of this last sentence. It is complete as quoted. It is quite usual to leave a loose end hanging over in this way, ready to drop off and endanger traffic.

recommended by Galen as an exercise proper for all parts so that "Those founders of Colleges are highly to be praised, that have erected Tennis courtes." Cogan, of course, had never heard of the dilation of the blood vessels in the walls of the intestine during digestion, but nevertheless discountenances hard exercise after meat, because, we are told, "Hastie moving driveth the natural heate from the inward parts."

That so many of the recommendations made in an empirical spirit have been supported by later scientific findings makes the book especially interesting. One is frequently surprised at the wise counsel given, only to be later amused at the seemingly absurd reason which supports the advice. However, it is yet too easy to find a physician who will explain the use of certain remedies for rheumatism as due to their ability to dissolve uric acid, the reliance on quack remedies is still too widespread, for the modern reader to assume any air of superiority over the sixteenth century writer. In reading his book, sensations are aroused akin to those provoked by correcting a set of examination papers. High hopes of deep knowledge are raised, only to be rudely dashed to the ground by the shallowness revealed in excessive loquacity.

But some of Cogan's explanations might very readily be accepted by a large group of non-scientific men to-day. In this respect I believe the average man of science has an exalted idea of ordinary "lay" opinion. Within the last month the writer heard an intelligent man, who had seven years ago graduated from one of our foremost American colleges give the reasons why lemon and milk had better not be eaten together. "The essence of lemon is citric acid, the essence of milk is malt, and of course the two do not mix." In the subsequent development of these novel views it appeared that the modern cow produced Horlick's Malted Milk, or milk that needed only to be evaporated carefully in order to yield the proprietary preparation. But to proceed—

Many of the home remedies now in use or their prototypes were known to Mrs. Crotoniates. Who, in his childhood days has not had onion concoctions inflicted on him by a well-meaning, but erring grandmother? Cogan had.

And if any be troubled with the cough, and be overlayed with abundance of fleume in the breast, so that they can not easily draw their winde, let them rost Onions under hotte embers and eate them with Hony and Pepper and Butter morning and evening, and within few dayes they shall feele their breastes loosed, and the fleume easily to be avoided.

The lowly prune is shown to have a long and a proud lineage.

Prunes being eaten first, beside that they are pleasaunt, they loose the belly. . . . I have written the more of Prunes, because it is so common a dish at Oxford.

The unchangeableness of college boarding houses is evidently not a new thing under the sun.

In the section on labor considerable advice is given regarding study, the assumption being that this is an activity with which a student may be not unacquainted. Morning is the best time for this, as then the "planets are favourable, Sol, Venus and Mercurie being near." One should work earnestly for an hour,

then the hair comber upwards forty times and the teeth rubbed. No new reading to be done in the afternoon, as now the sun is not convenient. But nothing is more hurtful than study at night.

Let the freshman gloat. But his gloating will be short-lived, for, our author continues,

Good students will spare no time from their books. . . . And if they wax pale with over much study, it is no reproche, but a verie commendable signe of a good student.

As for mental recreation, the playing of gambling games is discouraged (somehow the reader obtains the idea that this advice is rather half-hearted) but chess is recommended as an easily accessible pastime which students may have available at all hours. A prime source of recreation "for a mind wearied with study and for one that is melancholie (as the most part of learned men are) is music." Aristotle is properly given credit for this bit of wisdom.

Under the caption "Meate" a great variety of edible substances, together with some of the medicinal plants are discussed and classified according to their "hotnesse or coldnesse, dryness or moistness."

Goates flesh . . . is dispraised of Galen. Because, beside that it breedeth ill bloud it is tarte. Yet kidde is commended of him next unto pork. But Auicen and the sect of the Arabians, doe prefere kids flesh before all other flesh, because it is more temperate and breedeth pure bloud; as being in a meane betweene hote and colde, subtill and grosse. So that it can cause none inflammation nor repletion. . . . But it is not convenient for labourers because great labours would soone resolve the juice engendered thereof.

"Rammes mutton" our author leaves "unto those that would be rammish, and old mutton to butchers that want teeth

... Pork is most like human meat" and the "inward parts" of swine resemble the inward parts of man. For these reasons "some" have eaten human meat instead of pork. This atrocity our author attributes to "certain Scots." That the English land question was fomenting even in the sixteenth century appears from a long discussion on the evils of giving over large tracts to the raising of deer,—tracts which, if used for cattle, would be able to produce more food for the poor man.

Cogan evidently realized that various parts of animals do not necessarily nourish homologous parts of the human body, for he says: "That heads do not necessarily nourish heads best is seen by people with the falling sickness (a disease of the head), wherefore, I think that reason proceeded first out of a calves head or a sheepes head."

In these war times, the modern reader will sympathize with the author's observations on the eating of fish. We learn that in the sixteenth century England had a Hoover in no less a personage than good Queen Bess herself. The queen had ordained Wednesday for the eating of fish as well as Friday and Saturday, "not for holiness purpose, but as a civil policy. For the many lakes provide much good fish," and if the ordinance were obeyed, one half the days of the year (when fast days are included) would be meatless days. But some are selfish (sighs Cogan) and do not obey.

In this section we are told that "Milk is blood twice concocted. . . . A windie food, but can be made less windie if boyled." It is corrective of melancholy—a property which Metchnikoff would have undoubtedly ascribed to the reduction of intestinal putrefaction following its ingestion. Variety of foods is best (as the obvious way to supply a mixture of amino acids and a sufficiency of vitamins?), according to Hippocrates, for "Everie offence in dyet is wont to be more grievous on a slender diet, than a full dyet, and for the same cause, a very spare, precise and exquisite dyet is not so sure for them which be in ill health, because the breaking thereof is the more grievous." This advice has received ample justification in Germany within the past two years, where scientific studies have shown that medical students existing on the official civilian diet were completely unable to maintain health after taking a moderately long walk. Alive to-day, Cogan would doubtless be of the high-protein school.

The higher level of metabolism of childhood seems to be appreciated since it is advised that "Children, especially lively ones, should not fast, but should eat more." The idea of the

calorie and the fine conception of energy relations as applied to food requirements seems almost realized in practise, while the theoretical explanations set forth to support the advice seem as usual, absurd in the light of our fuller knowledge. Thus, to explain the wise advice that less be eaten in summer, the reader is informed that at this season of the year the perspiration is more copious, giving rise to loss of digestive juices. Carlson is not the first to advance the idea that the feeling of hunger is associated with certain contractions: for, to quote again,

When to eat is best told by hunger, hunger riseth by contractions of the veynes, proceeding from the mouth of the stomach, for want of meate, for as Leonard Fuchsus teacheth "True hunger ariseth of the feeling of want, when the veines do draw from the stomack as if they did milke it or sucke it."

Perhaps the widest departure from modern conceptions is found in the discussion of "Drinke." But even here the final impression is the same as might very well be obtained from reading a number of up-to-date tracts on the subject; that is, that the whole subject is a matter of controversy. Prohibitionists would surely not agree with Cogan, while, on the other hand, his ideas would be far more to their taste than those of earlier writers quoted.

Water may safely be consumed in England at certain times, provided due precautions are taken. Sanitary engineers will be glad to learn that the relative purity of waters may easily be determined by dipping linen cloths into the samples submitted, the notion being that the cloth drying soonest has been dipped in the purest water. "Some" in certain parts of the country are known to use no other beverage than water. "For young folkes and those of hote complexion, it doeth great harme, and sometimes it profiteth." This is evident pussy-footing. But it is not to be used by the "olde, phlegmatic or melancholie." Wine is the gift of God to man. Does then (Cogan plaintively asks) God love the Germans and French better than he loves the English, since he has given these people a climate so much better suited to the raising of the grape? No, Britons need not fear. This uneven distribution of favorable climate fulfills God's good purpose. He has made England dependent on the Continent for its wine supply so that a spirit of cooperation and of brotherly love will be engendered among the people of these nations.

"Wine is disliked by one in a thousand and these be those of a doggish nature, while it is good for clergymen of ready wit." Students, however, are to be cautioned, as they "have but feeble

brains," so that excess of wine is probably the cause why so few students have profound knowledge and ripeness. Plato forbade the use of wine up to the age of twenty-one, while Galen thought wine should not be indulged in until the age of thirty-five. (Cogan is well above this age.) On the other hand, Arnoldus says "Hipp" thought drunkenness was sometimes expedient in that it provoked vomiting and was for this reason cleansing. "Hippocrates counseled drunkenness once a month forso we might be procured to vomit." Once more Cogan ventures to express an opinion of his own. He believes that one had better be induced to vomit in other ways, less pleasant perhaps, but also "less beastly."

As regards "sleep," the toxin theory—which in 1919 has yet to be definitely rejected—is supported:

Here is showed by what meanes sleepe is caused. That is, by vapours and fumes rising from the stomacke to the head, where, through coldnesse of the braine, they being congealed, do stoppe the conduits and wayes of the senses, and so procure sleepe, which things may plainly be perceived hereby: for that immediately after meate we are most prone to sleepe.

We are all doubtless familiar with the common idea that lettuce causes drowsiness. This idea originated before Cogan's time, probably with the ancients, for he says:

I procured sleepe of set purpose: for it was grievous unto me to wake against my will. . . . Therefore Lettuce eaten in the evening was my only remedie.

It is only a few years since Mrs. Winslow's Soothing Syrup reformed. Under another name, a similar substance, unregenerate, was used by the Italian women before Cogan's time.

And the women of Salerne give their children the powder of the white Popie seedes with milke, to cause them to sleepe, it may be given otherwise for the same purpose, as in Posset, drinke, or in aleberie, or best of all in a Cawdle [cordial] made of Amondes and hempseede.

Nowe that I have spoken sufficiently of Labour, Meate, Drinke and Sleepe, it remaineth only that I speak of Venus. . . . And as it is last in order of the wordes, so ought it to be the last in use.

These chapters on Venus are interesting. The author's advice regarding the exercise of the sexual functions is not so advanced as that given by the most enlightened medical men, perhaps, but his views are certainly nearer the truth than those of a large part of any modern population. Be it remembered that we still have with us a few well-meaning though poorly informed physicians of the old school who do not hesitate to

advise incontinence for what they would call "meaty" young men. Among three classes of men named by Cogan as able to practise continency, clergymen are said to have this power conferred by the grace of God.

Yet I do not think the gift of continence so general as it was supposed in times pwast, when all the Clergie were restrained from marriage.

Some stories are then told which indicate that either the gift of God was not always comprehensive enough, or human weakness was sometimes so powerful that all contingencies were not provided for.

Cogan advises thirty-eight as the correct time for men to marry, and eighteen for women. At this time a man has attained self-control, so that the size of his family need not exceed his plans, while the woman is easily ruled. "The first dish that is served up at the marriage feast is miserie and the second is care," proclaims our author. But this is only hearsay. Cogan himself did not marry until three years after the first edition of "The Haven" was published.

"Appended" to the main part of the book is a discussion of the plague, which has been "Twice in Oxford in my time within 12 yeares, being brought from London both times: Once by clothes, and another time by lodging of a stranger." In reality these chapters are as much a part of the book as any of the others. I suspect they are "appended" merely because Cogan can not find any authority for introducing such chapters into a work on hygiene. The cause of the disease is "The influence of sundrie starres, great standing waters never refreshed, carraignes lying long above ground, much people in small roome, living uncleanly and sluttishly, that is, and one principall or generall cause, that is, the wrath of GOD for sinne."

Ways of avoiding the plague are given, one of which is to inhale the fumes produced by pouring acetic acid over heated copper. But the most effective measure is precipitant flight. The fatalistic attitude toward the disease is seen in the last chapter of the book:

Yet thankes be to God hitherto no great plague hath ensued upon it [the plague of 1577]. But if it do (as I doubt it will) unless we speedily repent either the pestilence, or famine, or warre, or all three, I say if it do, then must we do as the Prophet David did, offer a sacrifice unto the Lord, a contrite and humble hart: and say with that holy Prophet Let us fall now into the hands of the Lord, for his mercies are great, and let us not fall into the hand of man. And I beseech God that whensoever it shall please him to visite our offences with his rod, and our sinnes with scourges,

that we may likewise escape the hand of man and fall into the hand of the Lord, to whom be all glorie, prayse, and honour for ever and ever. Amen.

Who was this Thomas Cogan, whose memory has survived three centuries? Born in 1545, he received his B.A. from Oxford in 1563. An M.A. followed in 1566, and a degree of bachelor of medicine in 1574. A year before he received his medical degree, Cogan wrote the "Well of Wisdome . . . containing Chiefe and chosen sayings which may leade all men to perfect and true wisdome as well to Godward as to the worlde . . . gathered out of the five bookes of the olde Testament. . . ." This book was not published for several years.

After obtaining his medical degree, Cogan settled in Manchester, where he was, we are told, not only the leading physician, but high master of Manchester Grammar School, and a "classical scholar." One does not give white elephants to one's alma mater, so we know with what esteem our author regarded Galen and his work. For in a gift to Oriel College in October, 1595, he included five volumes of Galen's "Works," besides Thomas Geminies' "Anatomy" and Malthiolus' "Commentaries on Dioscorides."

At fifty-eight he resigned the position in the grammar school for the purpose, I suppose, of devoting more time to his medical practise. This must have been reasonably large, for he seems to have been very well connected and very well known in the neighborhood. In his spare moments he now prepared a selection of Cicero's letters for school-boys, which was published under the title "Epistolarum familiarum M. T. Circeronis. . . ."

Unless a man's gift to the world be far greater than its Cogans are destined to give, the interest after three hundred years is, I suppose, not so much in his attainments as in the character of the man himself. The reader of biography in 2200 will perhaps remember but few of even Huxley's monographs. The vast amount of work which was the center of his interest will be forgotten. That, however, Huxley successfully engaged in a public altercation with Bishop Wilberforce will long live in the memory of man.

Thomas Cogan died in 1607. Of his will, one sentence reveals the man. Given the single bone, the character of the man may be reconstructed. For, after bequeathing "certain moneys to the poor in Manchester" and to his "poore neighboures . . . all my Shirts, one appece," he says, "I give to every Scholler of the ffree Schoole in Manchester, 4 d. appece. . . ."

John Bunyan or Milton would have moralized over the gift. Dickens would have become intensely sentimental. Tears would

have freely flown. Samuel Johnson would have excluded Scotch scholars from the benefits to be conferred and would have stipulated that the money be spent on something which no boy of tender years should possess. But not Thomas Cogan. He knew boys. And schoolmasters seldom do. In knowing boys, he knew and understood men. And after all, it is because of this knowledge and because of the injection of his personality into the book he wrote that makes it still interesting.